The rationale of the placement of this unit in the term chronologically is twofold. It is both learning related and utilization related. The previous units support prerequisite skills that the student need to understand the unit material. Additionally, the timing in chronology of any quarter comes in the middle of midterm 1 and midterm 2 when students are most engaged in their coursework. The problems are grouped according to similar types: perimeter/area problems, unit cost, investment mixtures, distance mixtures, chemistry mixtures, and bulk/mixed lot problems.

This unit on applying linear equations follows two units which help build the skills to tackle the problem types in these lessons. The first unit is one of translation. It focuses on math vocabulary and translating sentences into math expressions. These skills are necessary for the student to approach the word problems in the unit. The second unit of the term is for basic equation solving. Students practice using the additive and multiplication properties to solve equations in one variable. There is a bridge lesson combining both units using translate and solve type problems just before this unit on applications of linear equations. The skills built in previous units are tied together in this application unit.

This unit is presented the week after the first exam of the term. At this point students have gotten a feeling of how much work they need to put in to meet their academic goals for this course. They are also getting comfortable with the academic support services for math on our campus. It is a particularly difficult unit for many students. So placing the unit in the middle of the term gives students the ability to get comfortable in the new class before the unit. Also, the students have enough time to “recover” point wise from this unit, if they do not perform up to their expectations. Leaving the unit until the end of the term runs the risk of students who have already disengaged in those last two weeks of the term. The practice with equation building and translation are too important for subsequent algebra courses, to risk the student’s end of term burn out.

The grouping of the problem types follows grouping by necessary formula, such as the perimeter, area, and distance problems. The costing, investment, bulk lot problems, and chemistry mixture are grouped by solution process similarity and topic relatedness. The two subunits of Perimeter/area and Distance are the most varied in the solution process when compared to the other problem types. For this reason, the perimeter/area lesson is on a different class day than the distance problem lesson. The class lectures are two hours and twenty minutes long. So two to three problem types are covered in once class session.